COMPAQ

User's Guide

Compaq V500 Color Monitor

FCC ID : BR8PE1110

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User's Guide

Compaq V500 Color Monitor

First Edition (November 1998)
Part Number 325903-001

Compaq Computer Corporation

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Federal Communications Commission Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio or television technician for help.

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The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Compaq Computer Corporation may void the user's authority to operate the equipment.

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This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

For questions regarding your product, contact:

Compaq Computer Corporation

P.O. Box 692000, Mail Stop 530113

Houston, Texas 77269-2000

Or call: 1-800-652-6672 (1-800-OK COMPAQ)

For questions regarding this declaration, contact:

Compaq Computer Corporation

P.O. Box 692000, Mail Stop 510101

Houston, Texas 77269-2000

Or call: (281) 514-3333

To identify this product, refer to the Series, or Model number found on the product.

Canadian Notice

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Avis Canadien

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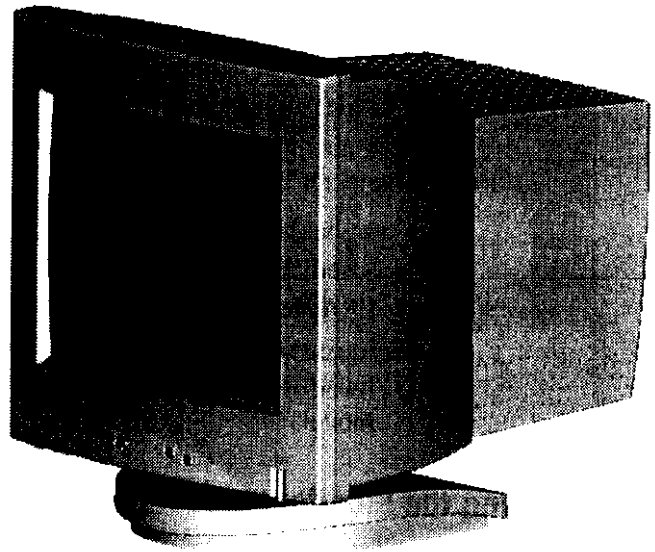
chapter 1

Introduction

The Compaq V500 Color Monitor is a microprocessor-based monitor with a 0.28 mm dot pitch that supports resolutions up to 1280 x 1024 non-interlaced and offers high performance and great versatility in operation.



Compaq V500 Color Monitor

Product Features

The monitor features include the following:

- 15-inch CRT with a 13.8-inch (35.05 cm) visible image size
- Automatic scanning of all horizontal frequencies between 30 and 70 kHz, and vertical frequencies between 48 and 160 Hz

- Easy-to-access front panel controls to adjust screen brightness and contrast
- On-screen display in six different languages: English, Dutch, French, Italian, German, and Spanish
- Plug and Play capability
- Tilt control (image rotation) functionality
- Support for VGA and Super VGA to 1280 × 1024 resolutions
- Ten factory preset timings for screen resolution and six user-defined modes available
- Energy Saver feature that, when activated, results in a power savings of greater than 98 percent
- Macintosh-compatible timing with optional connector*
- Compliant with the following regulated specifications:
  - Swedish MPR II 1990
  - EPA Energy Star
  - European Union CE Directives
  - Swedish TCO 1995 on select European models

Installing the Monitor

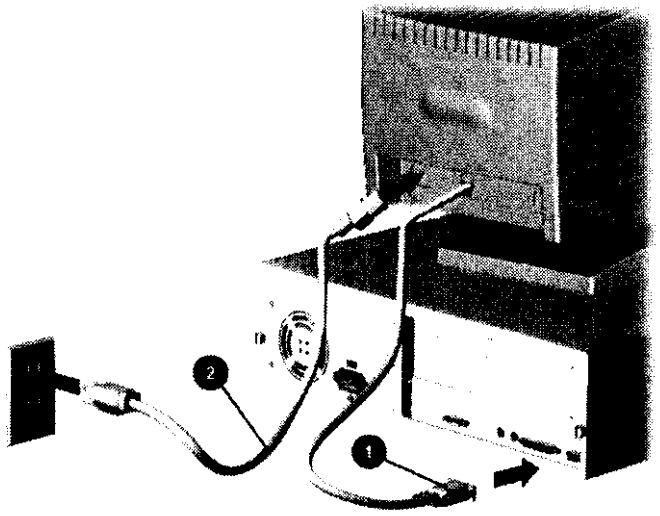
To install the monitor, ensure that the power to the monitor, computer system, and other attached devices is turned off, then follow these steps:

1. Place the monitor in a convenient, well-ventilated location near your computer.
2. Connect the monitor signal cable to the 15-pin connector ❶ on the rear panel of the computer. Tighten the screws on the end of the connector.

IMPORTANT: Be sure the signal cable aligns with the 15-pin connector. Do not force the cable onto the connector or you may damage the signal cable.

* A Macintosh-compatible connector is not supplied with this monitor.

3. Connect the monitor power cord ❷ to the rear panel of the monitor, then plug the other end of the cord into an electrical outlet that is easily accessible and close to the monitor.

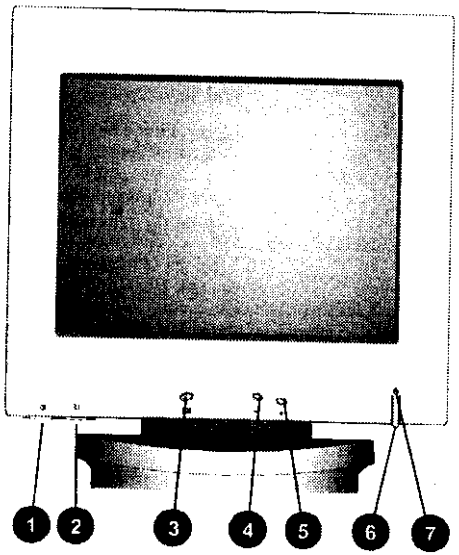


WARNING: To reduce the risk of electric shock or damage to your equipment, do not disable the power cord grounding plug. The grounding plug is an important safety feature. Plug the power cord into a grounded (earthed) electrical outlet that is easily accessible at all times. Disconnect power from the monitor by unplugging the power cord from the electrical outlet.

chapter 2

Operating the Monitor

Front Control Panel



Front Control Panel

No./Icon	Control	Function
❶ ◑	Contrast	Adjusts contrast by turning control to left or right.
❷ ☼	Brightness	Adjusts brightness by turning control to left or right.
❸ ⏎	Select button	1. Launches on-screen display. 2. Selects function adjustments. 3. Exits menus and on-screen display.
❹ -	Minus button	Selects and adjusts the functions.
❺ +	Plus button	Selects and adjusts the functions.
❻ ⏻	Power switch	Turns the monitor on and off.
❼	Power LED	1. Green indicates monitor is turned on. 2. Yellow indicates suspend mode. 3. Amber indicates sleep mode.

On-Screen Display Settings

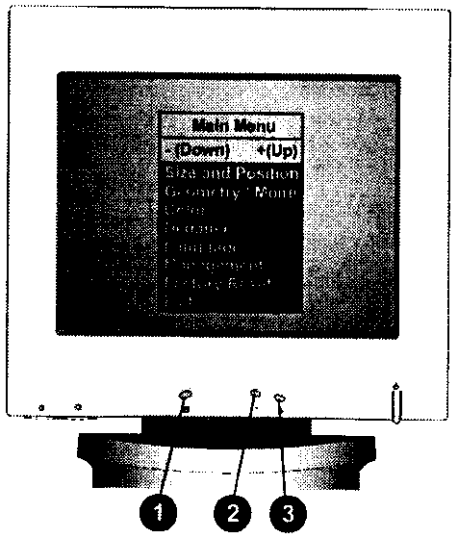
The adjustments for screen settings are located in the on-screen display and can be viewed in one of five available languages. The on-screen Main Menu displays the following seven functions:

Size and Position	Adjusts the horizontal and vertical size, overscan, and position of the screen.
Geometry/Moiré	Provides adjustments to correct pincushion, pincushion balance, trapezoid, parallelogram, and tilt. Moiré minimizes irregular or wavy lines on the screen.
Degauss	Corrects image distortion or color impurity caused by external magnetic fields.
Language	Lists six languages available to display on-screen menus.
Management	Provides adjustments to power saver and display modes and displays monitor serial number.
Factory Reset	Resets the screen to its factory settings.

How to Adjust Settings

To launch the on-screen display Main Menu:

1. Press the *Select* button ❶ on the monitor front panel. The Main Menu will display on the monitor screen.
2. To make a selection from the Main Menu, scroll down by pressing the *Minus* (-) button ❷ located on the monitor front panel, or by pressing the *Plus* (+) button ❸ to reverse or back up.
3. Highlight your choice and press the *Select* button ❶ again. For example, if your selection is Size and Position, press the *Minus* button ❷ until Size and Position is highlighted, then press the *Select* button ❶ to choose it.



Monitor with On-Screen Display

4. A second level menu displays with expanded menu items. Again, to make a selection, press the *Minus* (-) button ❷ to scroll down or press the *Plus* (+) button ❸ to reverse or back up.

IMPORTANT: The degauss selection does not have a menu. When you select degauss, the monitor will correct color impurities on the screen without bringing up another menu. Color impurities are usually caused by moving or rotating the monitor, or by external magnetic fields or nearby steel construction. The monitor screen automatically degausses when the monitor is turned on.

5. Highlight your choice and press the *Select* button.
6. The third level displays a sizing window for adjusting the selected function. To adjust, press the *Minus* button to decrease the degree of adjustment, or press the *Plus* button to increase the degree of adjustment.
7. Press the *Select* button after the adjustment is made.
8. To save the new adjustment, select *Save and Return* and press the *Select* button.
9. Select *Exit* from the Main Menu and press the *Select* button again to exit the on-screen display.

The following tables list the second-level menus and their functions and also give some examples of third-level menus.

Size and Position: Second Level Menu		
Control	**Icon**	**Function**
Horizontal Size		Increases or decreases horizontal width of the screen.
Horizontal Position		Moves screen horizontally left or right.
Vertical Size		Increases or decreases vertical width of the screen.
Vertical Position		Moves screen vertically upwards or downwards.
Cancel		Cancels the adjustment.
Save and Return		Saves adjustment and returns to main menu.

Geometry/Moiré: Second Level Menu		
Control	**Icon**	**Function**
Pincushion		Adjusts the left and right margins for more convex or more concave margins.
Pincushion Balance		Adjusts the balance of the pincushion.
Trapezoid		Adjusts the trapezoid of the screen by moving the lines inward or outward.
Parallelogram		Adjusts the parallel tilt of the screen by tilting the sides left or right.
Moiré		Minimizes irregular or wavy lines on the screen.
Tilt (Rotation)		Adjusts the screen's image rotation or tilt adjust.
Cancel		Cancels the adjustment.
Save and Return		Saves adjustment and returns to main menu.

✎ Until an actual change is made in a third-level display, the Save and Return control is inactive.

Management: Second Level Menu	
Control	**Function**
Power Saver	Turns power saver features on/off.
Display Mode	Turns display mode on/off.
Serial No.	Displays monitor serial number.
Exit	Exits to main menu.

Factory Reset: Second Level Menu	
Reset	Resets the monitor screen to default or factory settings.
Cancel	Cancels the settings reset.

Language: Second Level Menu	
Deutsch	Select for German screen display.
English	Select for English screen display.
Español	Select for Spanish screen display.
Français	Select for French screen display.
Italiano	Select for Italian screen display.
Nederlands	Select for Dutch screen display.
Cancel	Cancels the settings reset.

Language Selection

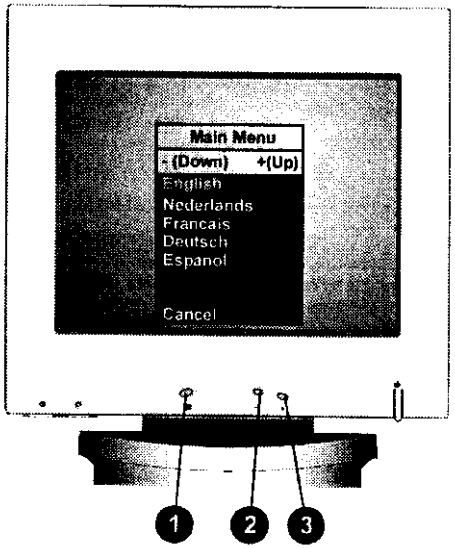
When the monitor is turned on for the first time, the on-screen display is set to the English language. However, the display can be set to any one of the six languages in the above menu.

To change the display to the language of your choice:

1. Launch the on-screen display by pressing the *Select* button ❶ on the monitor front panel.

2. To move through the list of functions on the on-screen display, press the *Minus* (-) button ❷ repeatedly until the word *Language* is highlighted on the screen. To reverse or back up through the function list, press the *Plus* (+) button ❸.

3. When *Language* is highlighted, press the Select button ❶ to confirm the selection.



Selecting Language on the On-Screen Display

4. From the next screen, press the *Minus* button ❷ to choose a language.

5. When the language of your choice is highlighted, press the *Select* button ❶ to confirm the selection and the Language Menu will escape to the Main Menu.

6. Within the Main Menu, highlight Exit and press the *Select* button ❶ to exit the on-screen display. From this point, all on-screen functions will display in your chosen language.

✎ Selecting *Cancel* exits the on-screen display without saving the new adjustments.

Display Resolutions

The display resolutions listed below are the most commonly used modes and are set as factory defaults. This monitor automatically recognizes these preset modes when they are requested by a software program and will provide the user with a properly sized and centered display.

Display Resolutions

Memory Channels	Resolutions
1. VGA Standard	640 × 480 at 31.5 kHz/60 Hz
2. VESA Standard	640 × 480 at 37.5 kHz/75 Hz
3. VESA Standard	640 × 480 at 43.3 kHz/85 Hz
4. VGA Standard	720 × 400 at 31.5 kHz/70 Hz
5. VESA Standard	800 × 600 at 46.9 kHz/75 Hz
6. VESA Standard	800 × 600 at 53.7 kHz/85 Hz
7. Macintosh Compatibility	832 × 624 at 49.72 kHz/74.5 Hz
8. VESA Standard	1024 × 768 at 60.0 kHz/75 Hz
9. VESA Standard	1024 × 768 at 68.7 kHz/85 Hz
10. VESA Standard	1152 x 864 at 67.5 kHz/75 Hz
Pre-Load	**Resolutions**
1. VESA Guideline	800 × 600 at 37.8 kHz/60 Hz
2. VESA Guideline	1024 × 768 at 48.3 kHz/60 Hz
3. VESA Guideline	1280 × 1024 at 63.9 kHz/60 Hz

User Modes

The video controller signal may occasionally call for a mode that is not preset if:

- You are not using a Compaq standard graphics adapter.
- You are not using a preset mode.

If this occurs, you may need to readjust the size and centering of the monitor screen by using the on-screen display. User changes can be made to any or all of these modes and saved in memory. The monitor automatically stores the new setting, then automatically recognizes the new mode just as it does a preset mode. In addition to the 10 preset modes that can be changed and stored, there are 6 user modes that can be entered and stored.

To revert back to the factory default settings, select "Reset" from the "Factory Reset" menu in the on-screen display, and the factory default resolutions will replace the user changes made for the operating original display mode.

✎ Memory channel 7 is a Macintosh-compatible display mode for use with a Macintosh-compatible computer. If your computer has this requirement, you will need to purchase a special adapter connector to attach to the monitor signal cable.

Energy Saver Feature

The Compaq V500 Color Monitor has an energy saver feature that allows the computer to control the monitor power consumption. The energy saver feature combines hardware and software components and puts the monitor into a reduced power state when it is not in use. When the monitor is turned off, it consumes power at less than 2 watts.

There are three different modes of operation:

- Full power mode
- Suspend mode
- Sleep mode

Full power mode is the normal mode of operation. The monitor goes into the suspend mode after a user-selectable period of keyboard and mouse inactivity. Sleep mode, which results in a power savings of over 98 percent, activates after a second user-selectable period of keyboard and mouse inactivity. By selecting settings in the computer's Energy Saver utility, you are able to determine the length of the inactivity period before the monitor goes into suspend or sleep mode.

The following table describes the monitor energy saver levels available during the different modes of operation.

Energy Saver Levels

Mode	Power Usage	Description
Full Power	Less than 85 watts	ON = Normal operation Power LED is green.
Suspend	Less than 8 watts	Monitor screen is blanked. High voltage is off. Heater voltage is on. Power LED turns yellow. Full power mode returns quickly.
Sleep	Less than 5 watts	Monitor screen is blanked. High voltage is off. Heater voltage is off. Power LED turns amber. There is a brief warm-up period before returning to full power mode.

✎ The energy saver features for monitors only work when the monitor is connected to a computer that has energy saver features.

The Energy Saver utility, with its energy saver features, is available under the Windows environment, and some features are available under the DOS environment. Refer to your computer manual for instructions on setting energy saver features (sometimes referred to as power management features).

chapter 3

Care and Maintenance

This section explains how to care for and maintain your Compaq monitor during normal everyday use.

Protecting the Monitor

To protect your monitor from overheating and other types of damage, follow these suggestions:

- Place the monitor at least 4 inches (10 cm) away from the wall.
- Use only a power source and connection appropriate for this monitor, as indicated on the marking label/back plate.
- When you connect the monitor to an outlet or extension cord, be sure the total ampere rating of the products connected to the outlet does not exceed the current rating of the electrical outlet, and the total ampere rating of the products connected to the cord does not exceed the rating of the cord.
- Install the monitor near an outlet that you can easily reach. Disconnect the product by grasping the plug firmly and pulling it from the outlet. Never disconnect the monitor by pulling the cord.
- Turn the monitor off when not using it. You can substantially increase the life expectancy of the monitor by using a screen saver program and turning off the monitor when it is not in use.
- Unplug the monitor from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
- Slots and openings in the cabinet are provided for ventilation. These openings must not be blocked or covered. Never push objects of any kind into cabinet slots or other openings.

- Do not place plants on top of the monitor. Water or dirt from the plant may fall into the vents.
- Do not drop the monitor or place it on an unstable surface.
- Do not allow anything to rest on the power cord. Do not walk on the cord.
- Keep the monitor in a well-ventilated area, away from excessive light, heat, and moisture. Keep the monitor away from high capacity transformers, electric motors, and other strong magnetic fields.
- In a two-monitor system, place the monitors as far apart from each other as possible to lessen interference between them.
- Do not open the monitor cabinet or attempt to service this product yourself. Adjust only those controls that are covered by the operating instructions. If the monitor is not operating properly or has been dropped or damaged, contact your Compaq authorized dealer, reseller, or service provider.

Cleaning the Monitor

To clean the monitor, follow these steps:

1. Turn off the monitor and the computer.
2. Dust the monitor by wiping the screen and the cabinet with a soft, clean cloth.

If the screen requires additional cleaning, use an antistatic CRT screen cleaner.

CAUTION: Do not use benzene, thinner or any volatile substances to clean the monitor. These chemicals may damage the cabinet finish.

Shipping the Monitor

Keep the original packing box in a storage area. You may need it later if you move or ship your computer.

Adjusting Picture Quality

Allow the monitor to warm up for 30 minutes before performing the following procedures. The picture image stabilizes after a warm-up period.

Optimizing Contrast

For best results, set your screen to a dark background (such as the DOS prompt) before adjusting the following settings:

1. Set the brightness and contrast controls to their lowest levels.
2. Increase brightness until the background portions of the screen are visible, then slowly reduce brightness until the background is slightly extinguished.
3. Adjust contrast control to your preference.

Optimizing Focus

The default image size is preset at the factory. The front panel controls can be used to increase the screen size beyond the default setting. However, expanding the screen image beyond the default settings may degrade the focus at the outer edge of the screen.

To enhance focus, use the lowest brightness level that gives satisfactory results in your viewing environment.

Settings that maximize contrast may not offer optimum focus, and settings that maximize focus may not offer optimum contrast.

appendix A

Specifications

Compaq V500 Color Monitor		
Display		
CRT	15-in FS	38 cm
Type	Color	
Viewable Image Size	13.8-in diagonal	35.05 cm
Face Treatment	Tinted screen glass, with antiglare, antistatic coating, light transmission 42%, MPR II 1990.	
Maximum Weight	34.8 lbs	15.8 kg
Maximum Dimensions		
Height	15.9 in	40.5 cm
Depth	16.4 in	41.5 cm
Width	14.7 in	37.4 cm
Maximum Graphics Resolution	1280 × 1024 at 60 Hz Refresh Rate	
Phosphor/Dot Pitch	P22, 0.28 mm	
Text Mode	VGA or higher	
Character Display	VGA or higher	
Display Controls	Power, Contrast, and Brightness	
On-Screen Display Controls	Select, Minus, and Plus	
Pixel Clock Rate	108 MHz	
Horizontal Frequency	30 to 70 kHz	
Vertical Frequency	48 to 160 Hz	
Environmental Requirements Temperature		
Operating	50 to 104°F	10 to 40°C
Non-Operating	-22 to 140°F	-30 to 60°C
Humidity (non-condensing)		
Operating	20 to 80%	
Non-operating	5 to 95%	

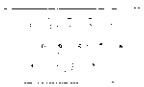
Continued

Specifications *Continued*

Power Source	AC 90-264 V, 50-60 Hz, < 85 watts
Power Consumption	< 85 watts
Power Switch Off Power Consumption	< 5 watts
Inrush Current	30A Max at 120 VAC 60A Max at 220 VAC
Input Terminal	15-pin D-type connector with cable

Connector Pin Assignments

Signal Cable

Connector	Pin	Signal
	1	Red Video
	2	Green Video/Sync on green
	3	Blue Video
	4	Open
	5	Return
	6	Red Gnd
	7	Green Gnd
	8	Blue Gnd
	9	+5V
	10	Sync Gnd
	11	Open
	12*	Bidirectional Data (SDA)
	13	H-Sync/Composite Sync
	14	V-Sync
	15*	Data Clock (SCL)

* DDC Signals

Color Display Values

CIE* Chromaticity Coordinates

	x (+/- 0.030)	y (+/- 0.030)
Red	0.618	0.341
Blue	0.150	0.063
Green	0.304	0.590
White Point (9300k)	0.281	0.311
Gamma: 2.25		

*Commission International d'Eclairage, 1931 Standard.

appendix B

Power Cord Set Requirements

The monitor power supply is designed to match the Full-Range power source.. This feature allows the monitor to operate on input voltages between 90V to 264V.

The power cord set (flexible cord or wall plug) received with the monitor meets the requirements for use in the country where you purchased the equipment.

Power cord sets must meet the requirements of the country where you use the monitor. For more information on power cord set requirements, contact your Compaq authorized dealer, reseller or service provider.

General Information

The requirements listed below are applicable to all countries:

1. The length of the power cord set must be at least 5.00 feet (1.5 m) and a maximum of 9.75 feet (3.0 m).
2. All power cord sets must be approved by an acceptable accredited agency responsible for evaluation in the country where the power cord set will be used.
3. The power cord set must have a minimum current capacity of 10A and a nominal voltage rating of 125 or 250 volts AC, as required by each country's power system.
4. The appliance coupler must meet the mechanical configuration of an EN 60 320/IEC 320 Standard Sheet C13 connector, for mating with appliance inlet on the rear of the unit.

Country-Specific Requirements

Power Cord Set Requirements: By Country

Country	Accredited Agency	Applicable Note Numbers
Australia	EANSW	1
Austria	OVE	1
Belgium	CEBC	1
Canada	CSA	2
China	CCEE	1
Denmark	DEMKO	1
Finland	FIMKO	1
France	UTE	1
Germany	VDE	1
Italy	IMQ	1
Japan	JIS	3
The Netherlands	KEMA	1
Norway	NEMKO	1
Singapore	PSB	1
Sweden	SEMKO	1
Switzerland	SEV	1
United Kingdom	BSI	1
United States	UL	2

Notes:

1. The flexible cord must be <HAR> Type HO5VV-F, 3-conductor, 1.0 mm^2 conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the certification mark of the agency responsible for evaluation in the country where it will be used.
2. The flexible cord must be Type SJT or equivalent, No. 18 AWG, 3-conductor. The wall plug must be a two-pole grounding type with a NEMA 5-15P (15A, 125V) or NEMA 6-15P (15A 250V) configuration.
3. The appliance coupler, flexible cord, and wall plug must bear a "T" mark and registration number in accordance with the Japanese Dentori Law. The flexible cord must be Type VCT or VCTF, 3-conductor, 0.75mm^2 conductor size. The wall plug must be a two-pole grounding type with a Japanese Industrial Standard C8303 (15A, 125V) configuration.